CASH IN THE ERA OF THE DIGITAL PAYMENTS PANOPTICON

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You cannot burn digital money. Not unless you are prepared to engage in arson. To burn digital fiat would require undertaking a mission to an industrial park to burn down the fortified datacentre of a large bank like Barclays. But even then, they would have backups, and to fully burn the digital money supply you would have to destroy all bank and central bank datacentres. Our everyday digital pounds, dollars and euros do not reside in your computer or on your phone. They reside as records imprinted on huge bank-controlled computer arrays, attended to by cooling systems and power generators. Your laptop or smartphone is just there to interact with those central hubs.

Cash, though, you can burn. In the 2008 Batman film *The Dark Knight*, Heath Ledger's Joker burns a small mountain of it to demonstrate just how little he cares for the petty grasping of ordinary criminals who seek out the physical surety of paper dollars in hand. The desire to hoard cash — like Scrooge McDuck swimming in his money bin — is a defensive sign of fear, an attempt to build a direct buffer of control over other people and your environment.

The ability to burn, though, reveals a crucial distinction between cash and digital money. Destruction requires personal autonomy over the thing being destroyed. You cannot burn digital money for the simple reason that you do not directly control it.

Cash Versus Money

The first time I ritualistically sacrificed cash was at a music festival in the California desert. It burned with a green-blue flame, my claim upon the products of society reduced to smoke traces. These burning rituals can help to illuminate hidden dark arts of monetary policy. Money is not a store of value. Rather, it is a tokenized claim that enables you to access, control, or mobilize value that resides in goods and services. Burning money does not destroy value. Rather, it burns up your ability to *control* the value embedded in the products of other's labor.

At the heart of modern economies is a two-part play. Real goods and services are produced by real people using real materials, aided by technology. This real value, though, is not directly exchanged in markets. Rather, one party — the 'seller' — gives a specific real good or service in exchange for tokens dispensed from a 'buyer' that grants the seller access to a general pool of potential goods and services from others in future. In other words, current and specific value is exchanged for *claims* upon potential and general value. The entire capitalist system is built upon this basic social algorithm. It forms a sprawling, interconnected web of enmeshed transactions, a myriad of real things flowing in response to movements of money tokens that grant access to a pool of potentially real things.

In this context, the power to intervene in the money system is a means to exert control over the flow of underlying value and the labor that produces it. Central banks' attempts to expand or contract the money supply — via the commercial banks — are attempts to exert indirect control over people's bodies, minds, and emotions, mobilizing them to produce value, or slowing them down.

We live, however, with two modes of money. Cash is our system of physical tokens — the type you can burn — that are manually transferred to complete transactions. Then we have the bank datacentres. Here our money tokens take the form of 'data objects', inscriptions recorded onto a ledger by an authority granted power to record-into-existence and 'keep score' of money units for you. This is your bank account. Rather than physically transporting this money, we 'move' it by sending messages to our banks — for example, via our mobile phone — and asking them to edit the data. Money 'moves' to your landlord if your two respective banks can agree to edit accounts, reducing your score and increasing your landlord's score.

This latter form of privately-issued digital bank money is much more dominant than cash, forming over 90% of the UK money supply.[1] Nevertheless, the way we think about money always suggests physicality. We talk of money 'moving' or 'flowing', about 'depositing' and 'storing' it, and about 'lending it out', as if it were some kind of grain. Many economics textbooks still insist that a core feature of money is 'portability'. Type 'money' into a Google image search, and you'll find a mass of images of physical *cash*. Type 'digital money' in, and you'll get pictures of cash dissolving into data, or cash flying through wires. Even in the digital realm, we fixate upon the cash form.

A mental and linguistic slip occurs. The term 'money' and the term 'cash' get blended. David Wolman's 2012 book about the 'coming cashless society' was titled *The End of Money*, as if the end of cash meant the end of money itself, rather than the end of but one form of money. The term 'demonetisation' was used to refer to the Indian government's 2016 retraction of banknotes, rather than the term 'de-cashification'.

This confusion seeps into the media. The Panama Papers were leaked in 2016, the website claiming to show tax-dodging 'Politicians, criminals and the rogue industry that hides their cash'.[2] It should have read 'the rogue industry that hides their digital bank deposits'. Articles accompanying it showed men passing duffle-bags of dollar bills, rather than automated systems altering data entries in offshore bank accounts.

This fixation upon 'cash-as-money', therefore, doubles as a blindness towards the custodians of digital money. People imagine digital money as an emergent 'update' to cash, rather than an entirely parallel system run by banks. Digital money isn't an update to cash. It's an update to the old account books that old bankers used to write in with quill pens. Few people recognize that cash is one of the last bulwarks we have against a completely commercial bank-dominated money system.

1 See 'Where Does Money Come From? A guide to the UK monetary and banking system', *New Economics Foundation,* 12 December 2012, http://neweconomics.org/2012/12/where-does-money-come-from/.

2 See 'The Panama Papers: Politicians, Criminals and the Rogue Industry that Hides their Cash', *International Consortium of Investigative Journalists (ICIJ)*, https://panamapapers.icij.org/.

The War on Cash

Against this backdrop of confusion, we see a concerted corporate and political effort to remove that bulwark. The emerging ‘cashless society’ looms — according to evangelists — like a futuristic sunrise, cleansing us of these filthy notes with rays of hygienic digital salvation. And, it was in response to this flawed and disorientating public narrative that I published two popular essays: *The War on Cash*[3] and *In Praise of Cash.*[4]

A central point I tried to convey in both was that the phrase ‘cashless society’ is essentially a euphemistic way of framing the ‘bank payments society’, a society in which you will have to rely upon the banking sector to move money around. Calling a bank digital money system ‘cashless’ is like calling an all-cash economy ‘the bankless society’. By drawing attention to what is not present, you distract from what actually is present.

There are three commercial interest groups who stand to benefit from such a society. The first is the banking sector itself, which controls the underlying bank account infrastructure that people will have to use in a cashless society. The second is big payments companies like Visa and Mastercard, who facilitate the transfer — or, more accurately, editing — of money between those bank accounts. The third is the broader financial technology — or fintech — industry that builds services on top of this, like phone apps and payments gadgets that are plugged into this infrastructure.

While there have long been predictions of a cashless society, the fintech industry has in recent years become increasingly powerful in economic clout and political influence. They, alongside the established oligopoly players like Visa, are on the offensive against cash for purely self-interested reasons. This growing lobby attempt to use their media and advertising power to slowly erode the public’s attachment to cash, but their offensive is also conditioning elite political attitudes. In 2017, for example, the EU Commission suddenly saw it fit to investigate the implementation of cash thresholds[5] — limits on the amount of cash that can be used. The EU has promoted legislation like the Revised Payments Services Directive (PSD2) that encourages more integration between banks and fintech companies, a move that superficially appears to threaten individual banks but on net seeks to strengthen the overall digital finance ecosystem that is built upon the banking system. This innovative momentum is juxtaposed against older systems like cash. The digital payments industry presents itself as waiting in the wings to take over, making these types of political pushes more feasible than they were previously.

The political push for cashlessness, however, is not merely due to the capture of state authorities by financial corporations. Government officials have their own reasons too. In forcing people to use the banking system for all monetary transfers, the bank payments society allows far greater monitoring of people’s transactions. This is deemed a positive step forward in the battle against crime and terrorist financing, but the pros-

3 See Brett Scott, ‘The War on Cash’, *TheLong+Short,* 19 August 2016, http://thelongandshort.org/society/war-on-cash.

4 See Brett Scott, ‘In Praise of Cash’, *Aeon,* 1 March 2017, https://aeon.co/essays/if-plastic-replaces-cash-much-that-is-good-will-be-lost.

5 See ‘EU Initiative on Restrictions on Payments in Cash’, *European Commission*, 2017, https://ec.europa.eu/info/consultations/eu-initiative-restrictions-payments-cash_en.

pect of monitoring political subversion and opposition looms large in certain countries. And then there's tax. A senior state tax official casually told me over drinks that the reason they're pushing cashlessness is to better monitor the income and expenses of small businesses and individuals. Finally, there is the monetary policy angle. Central banks would like greater power to implement forms of monetary policy that cash hampers, in particular the ability to remotely erode people's bank balances through negative interest rates to get them to spend.

We see an emergent alliance between digital payments companies, banks, central banks and governments, and the far-reaching voice of such powerful interest groups calmly asserting the inevitability of cashlessness impacts public attitudes. The overt propaganda campaigns that flood people with positive messages about digital payments are but one element of this voice. Subtler forms of cultural hegemony — the mainstream newspaper reporting on the Bank of England cash study, or the respectable CEO talking about the EU cash thresholds debate on BBC — repeat and reinforce negative narratives about cash as a dangerous and outdated form.

Many people going about their everyday business do not have strong opinions or concerns about cash — and are certainly not out there campaigning for its demise — but often in my conversations about this issue people repeat the mainstream mantra that cashlessness is inevitable. When asked why it is inevitable, they often vaguely allude to a kind of 'natural progress' towards digital payment. When asked what the driving force of this 'progress' is, they say things like 'people just like technology', or alternatively, 'digital payment is pretty convenient'.

The convenience narrative is very common, and yet it is problematic on two accounts. Firstly, it is not actually obvious that cash is inconvenient. I have experienced contexts in which the cash system has failed — in Mozambique in the early 2000s where certain remote towns suffered from acute shortages of cash, and in Zimbabwe — but those societies suffered from serious problems in non-cash payments too. In many economies it is extremely easy to use cash, and requires no prior setting up of bank accounts, waiting for cards, minimum payment amounts, and so on.

Secondly, inconvenience is not an inherent property of cash, but rather a contextual property that emerges when the cash-supporting infrastructure is neglected or withdrawn. In other words, it is possible to *engineer inconvenience* and irritation by deliberately making cash harder to use. For example, banks in various European countries are cutting down on the number of ATMs and branches they provide,[6] which in turn frustrates people trying to get cash, and which in turn makes digital payment look comparatively easy. They then showcase the inconvenience — that they themselves have engineered — as a reason for why digital payment is superior. On the back of India's 'demonetisation' debacle, Visa launched its #KindnessIsCashless campaign

6 See International Monetary Fund, 'Automated Teller Machines (ATMs) (per 100,000 Adults)', *The World Bank*, https://data.worldbank.org/indicator/FB.ATM.TOTL.P5. The statistics show ATMs per 100,000 adults. Declines — some very significant — are noted for Denmark, Estonia, Finland, Netherlands, Norway, Spain, Sweden, Iceland, Ireland, Latvia, Lithuania, Austria, Belgium, Greece and France. The statistics show that the Euro area as a whole has seen a significant decline in ATMs per 100,000 adults since 2010.

in the country. They produced a video[7] showing a frustrated elderly teacher standing in a long queue for cash who is then rescued by his students who show him how to use a digital payments app on his phone. The campaign carefully avoids mention of the fact that the inefficiency of the Indian cash system has been orchestrated by the Indian government itself.

Breaking the All-or-Nothing Narrative

If I stand in front of an audience and say 'Raise your hands if you'd like access to digital payment', most would raise their hands. People find digital payment useful. But if I say 'raise your hands if you want to have the option to use cash removed', people are more hesitant. While we may enjoy the benefits of digital payment in various circumstances — for example, in the context of internet purchases — many people have no inherent problem with using cash for everyday in-person purchases, and, given the choice, would prefer for it to remain an *option*.

Cashless society proponents, however, are crafting their narrative in such a way as to fuse the idea of 'digital payment' with the idea of 'no cash', framing it as a dualistic either-or choice. They present an all-cash world and pit it against an all-digital world, and then conclude that an all-digital world is superior. In reality, the best option would be a hybrid payments system where both are available.

An analogy will help here. Automobile evangelists in the early 1900s might have made grand claims like 'cars are the future!' and predicted the demise of all other forms of transport, such as the horse-drawn carriage. Indeed, the world's first automobile advertisement in 1898 came from the Winton Motor Carriage Company with the tagline 'Dispense with a horse'.[8] The digital payments lobby is doing that right now for cash, presenting it as the horse-drawn cart of the payments world, outmatched by digital in all possible respects.

But if we reframe the analogy, we can turn the story on its head. Enter the bicycle. Bicycles existed prior to cars, and yet in modern society we still use them *both*. We recognise them as having pros and cons in different situations, and we value having both available. But it's deeper than that. In the subsequent history of transport, cars have led to big problems of congestion, road accidents, pollution, and urban sprawl. Bicycles, in this context, actually have come to represent a *solution* to the problems caused by the car. To bring the analogy back to money, cash is not the horse-cart of payments but the bicycle. Digital payment is being framed in a futuristic light right now, but it opens up some extremely negative possibilities that we may have to use cash to solve.

So what are those potentialities? Three problems need immediate mention. Firstly, the end of cash will probably mean the beginning of an all-encompassing financial panopticon that can be used for widespread surveillance, tracking and manipulation of individuals by both states and corporations. Secondly, going all-digital exposes us to far

7 See Visa India, 'A Teacher and Student's #KindnessIsCashless Story - Visa', *YouTube,* 23 February 2017, https://www.youtube.com/watch?v=lSpAtMgKdPw.

8 See Borroz, Tony. 'July 30, 1898: Car Ads get Rolling', *Wired,* 30 July 2009, https://www.wired.com/2009/07/dayintech_0730/.

greater risks of devastating financial cyberattacks and digital crime. Thirdly, cashlessness brings new forms of digital financial exclusion, the screening out of anyone who lacks the ability to interact with the digital bureaucracies of privately-run commercial institutions that control the money system.

Very few people seem to understand this right now, and the cashless lobby has very little interest in telling you about these dark sides. Ironically, they are actually trying to argue the opposite. Take, for example, The Better than Cash Alliance, a lobby-organisation ostensibly run by the UN Capital Development Fund but started and funded by, among others, Citibank, Visa and Mastercard.[9] The primary argument they put forward is that digital payment can be useful to people in situations of poverty. This in itself isn't problematic: of course, if I live in an all-cash economy I may indeed benefit from the introduction of a new digital option. Their decision, though, to call themselves the 'Better than Cash Alliance', rather than, say, the 'Building Digital Payments Alliance' is a bit like a bus transport initiative calling itself 'The Better Than Bicycles Alliance'. Why the headline focus on attacking cash rather than showcasing how the digital might be a useful addition to a rural cash economy?

A cynical observer browsing through their website might conclude that it is a front-group representing the interests of the payments industry under the guise of a humanitarian project. They have little to no transparency about who actually sits on their Executive Committee, and investigation reveals a range of current and former payments industry personnel — from companies like Paypal, Ripple and Square — who advise them. Among their target audiences are national governments, NGOs and multinational corporations with staff in developing countries. They see corporates — such as large clothing brands with outsourced production in poorer countries that pay their low-level employees in cash — as a leverage point to push digital payments. I met a textiles entrepreneur from Bangladesh who told me that a corporate member of the Alliance pressures its suppliers into paying staff digitally.

We need not see this as some kind of conspiracy: It makes sense that an organisation promoting digital payment would recruit the expert services of people working at digital payment companies, and people who work at digital payment companies are more likely than most to be convinced of the virtues of digital payment. Nevertheless, it is obvious that they specialize in presenting a one-sided glorification of the potential benefits of the digital, whilst ignoring its potential negative consequences, and then setting this against a negative interpretation of cash as a 'burden' upon poorer people. All of this despite the fact that cash is the one form of money that currently forms a lifeline to people excluded from services from banks. Every element of their presentation is designed to associate the idea of digital payment with the idea of cashlessness, rather than presenting digital payment as being potentially complementary to cash.

Most perplexing, though, is that the Better Than Cash Alliance manages to do this all without ever really explicitly laying out an argument for why cash is negative. The

9 See 'Resource Partners', *Better than Cash Alliance*, https://www.betterthancash.org/join-us/resource-partners.

malice of cash is merely implied, hinted at, and left to the reader to infer, as if it is so obvious as to not even be worth mentioning. Their flagship line of ‘digital is great’ is illuminated in such a to way as to cast a shadow of ‘cash is dangerous’.

This may seem pedestrian and benign to an affluent city-dweller in the Western world, but the message is insidious because it hides an implicit value judgement about formality. It carries an assumption that getting drawn into the mainstream world dominated by large-scale corporations and state authorities is obviously superior, and that parts of society that do not exist in that world should not rightfully exist at all. The cash economy is — apparently — a realm of uncontrolled darkness that people must be liberated from, and if they cannot be liberated from it, they must be undesirables. This is a viewpoint that can flourish among people deeply steeped in privileged institutions, with economic interests in the ongoing success of those institutions and respectable positions within them. There is no place for the vast grey areas of marginality that includes people excluded from formal economies, people on the wrong side of official law, and people who thrive on small-scale non-institutional activities, like the busker on a street.

Defending the Grey Areas of Social Progress

The irony is that social progress — if we believe in such a thing — requires grey areas. In August 2017 I gave a talk at the Crypto-Cannabis Salon in Alameda, California, an event bringing together the cryptocurrency industry with the cannabis industry. Marijuana is in the process of being legalized in California and growers are cautiously stepping into the world of legal, respectable business. For many years, cash has kept the cannabis industry alive, allowing it to thrive while political activists pushed for its legalization. For many of those activists the ‘War on Drugs’ is more than just futile. It is an injustice, an attempt by states to quash ancient plant substances that have benefits to humanity, whilst arbitrarily accepting tobacco and alcohol corporations that push products far more damaging. The legalization of marijuana is seen by the activists as a progressive step forward in humanity.

Seen from this perspective, cash has not merely facilitated ‘drug crime’ — as pre-legalization cannabis growing was categorized — but also simultaneously kept an industry alive for long enough for laws to be updated. Had cash not been around, the industry might not have developed, and there would be little to legalize. The strictures of the digital payments cage would have killed it before it had a chance to showcase its benefits. In a sense, cash nurtured a practice that has now been legitimized.

The problem, however, is that US banks and payments companies are subject to US federal regulation, and this overrides individual US state regulations. Legal cannabis industry businesses in California, therefore, struggle to get bank accounts or services from payments companies. In this context, they now see themselves as being ‘forced’ to use cash, and denied the opportunity to gain the benefits that digital payments offer. The large amounts of cash they deal with presents a security problem, and now that they have to pay taxes, they are forced to physically present bundles of cash at the tax office. The money form that has kept them alive for decades is now being perceived as a ‘burden’.

This illustrates an important point, though. Cash is the money form of the underdog, of the excluded. If you are a new member of respectable elite society, and you are forced to use it, you feel like you are *missing out* on a more advanced form. To return to our analogy, it is like being forced to ride a bicycle when other members of your class all have cars. Rather than the bicycle appearing as your friend, and as ‘better than nothing’, it is characterized as ‘slow’ and ‘crude’ and you shout, ‘Why can’t I have a car!’ When, however, you get used to having a car, you may begin to see the bicycle in a new light. In combination with the car’s long-distance capabilities and speed, your bicycle appears nimble, efficient for short trips, requiring low maintenance, and so on. The perspective really depends on your context. Not wishing to *rely* upon a bicycle is different to saying that bicycles should not exist. Indeed, without bicycles the car might appear increasingly oppressive.

Third party malware in the capitalist market algorithm

In the cashless bank payments society there is never just a buyer of a product, and a seller. There is always a third party, a middleman who is required to pass the money between the buyer and the seller. This grants the middleman — banks and payments networks like Visa and Mastercard — a lot of power. They can see your transactions, when you do them, and where you do them. Furthermore, if they don’t like what you’re transacting, they have the power to prevent it. We thus have the potential for both financial surveillance and financial censorship. When Visa, Mastercard and Paypal decided they didn’t want people to be able to donate money to Wikileaks,[10] they censored not only Wikileaks but also all the people who felt a moral call to support the organisation.

It’s comparatively easy to alarm people by pointing to overt instances of aggressive payments gatekeeping and surveillance. The more insidious issue, however, may not actually be whether some Big Brother is really watching you or not. The cashless society stands to create a widespread feeling of *potentially* being watched. This is the essence of a panopticon. The point of a panopticon is not to watch you, but rather to make you internalize the belief that you’re being watched, and to self-regulate your behaviour in response. No need to hire armies of watchers, when you can make people watchers of themselves.

Those who argue for the benefits of such surveillance effects always say ‘if you have nothing to hide you have nothing to fear’, but we value privacy for reasons beyond trying to hide. Many of us like feeling that we have autonomy and that we can engage in private economic decisions without an authority looking over our shoulder all the time. The surveillance society is one in which adults are made to feel like small children who cannot be trusted.

This surveillance concern is one avenue by which the War on Cash is exposing rifts in market libertarian philosophy. Isn’t it ironic that our individual privacy may be protected by the old state cash? Isn’t it ironic that privatized payments systems allow for far greater state monitoring of transactions?

But the War on Cash presents a second uncomfortable issue for libertarian theorists. How will overall markets function when every general market transaction has to be passed through a specific market of private payments companies that may not have

10 See ‘WikiLeaks: Banking Blockade and Donations Campaign’, *WikiLeaks*, https://wikileaks.org/IMG/pdf/WikiLeaks-Banking-Blockade-Information-Pack.pdf.

incentives to let all players trade? The treasured intellectual edifice of 'state vs. market' starts to creak as it becomes more apparent that states support markets by upholding the base infrastructure that enables them to work. One half of modern capitalist exchange — the money — has a public component. Cash is M0 money, the base money, the fall-back money, the state money of last resort. It's the money you use when the shop's debit card system crashes. It's the money you use when you're a stranger in a foreign country. Its replacement with the fickle digital promises issued by private commercial banks is risky for good ole capitalism.

And thus, in the context of the cashless society hype, we find a parallel rise in speculations about 'state digital money'.[11] If we indeed are going to become cashless, and if private digital payments intermediaries cannot be trusted to keep a market system running for all, there will be pressure to create a public digital payments infrastructure to guarantee everyone's ability to transact. Right now, the choice is between commercial bank digital and state cash, but the imagined future battle is one between bank digital and state digital.

But, unlike state cash, state digital money is also a potential vector of surveillance and monitoring. This concern of getting trapped in a prison of watchable payments inspired the original attempts at building non-state, non-bank digital currencies. David Chaum — founder of the early privacy currency initiative Digicash — noted this in his 1983 paper 'Blind signatures for untraceable payments':

> On the one hand, knowledge by a third party of the payee, amount, and time of payment for every transaction made by an individual can reveal a great deal about the individual's whereabouts, associations and lifestyle. For example, consider payments for such things as transportation, hotels, restaurants, movies, theater, lectures, food, pharmaceuticals, alcohol, books, periodicals, dues, religious and political contributions.[12]

Cypherpunks like Chaum were acutely aware of the potential for state abuse of this data, but also of corporate abuse. The increased data allows fine-tuned profiling of individuals, opening up ever-more subtle and advanced forms of manipulation. This push has continued apace, with large tech firms entering into collaborations with large financial firms to create hybrid digital payments systems. Companies like Google already have location and search data and to add payments data would deepen their knowledge of individuals greatly. With the rise of machine-learning and predictive analytics, these combined data sets are used as the fuel to produce offerings and nudges that steer you onto future paths. This is a source of that growing feeling — creeping into the back of our minds — that we are being 'helped' and guided by seemingly-benevolent yet eerily overbearing corporate butlers that are always present. It may appear convenient, but may also carry with it the slow erosion of our personal agency and clear independent thought.

11 See, for example, John Barrdear and Michael Kumhof. 'The Macroeconomics of Central Bank Issued Digital Currencies', *Bank of England,* July 2016, http://www.bankofengland.co.uk/research/Documents/workingpapers/2016/swp605.pdf.

12 See David Chaum, 'Blind Signatures for Untraceable Payments', *Taxable Anonymous Libre Electronic Reserves (TALER)*, https://taler.net/papers/chaum-blind-signatures.pdf.

Against Autocorrect: Defending a Right to Criminality

The tradition of Digicash is now being carried forward by the likes of Bitcoin, Monero and Zcash that stand as alternatives to both bank and state digital payment systems. This places them in the somewhat surprising position of being aligned to state cash, mimicking its flexibility, anonymity and with that, an association to the criminal underworld where cash is presumed to be king.

The assertion that cash is the realm of criminality remains one of the most pervasive lines in the War on Cash. To counter it, one could attempt to argue that cash is used for many things beyond crime, that the crime figures are overstated, or that, even if it is a crime-facilitator, its benefits justify that.

There is, however, an even deeper problem to the cash-as-crime narrative, something bigger at stake. As the digital realm expands and seeps into every aspect of our existence, avenues for deviance are being shut down, and this threatens the very basis of our legal morality. In Ursula Le Guin's science fiction classic *The Dispossessed,* teenagers on the anarchist planet Anarres condemn the state-corporate hierarchies of the rival capitalist planet Urras. One asks:

> Would you really like to live in a society where you had no responsibility and no freedom, no choice, only the option of obedience to the law, or disobedience followed by punishment? Would you really want to go live in a prison?

Their point is that living in a society where failure to obey the law automatically results in punishment is essentially the same as living in a prison. The reason we do not feel this in our current society is that failure to obey the law *does not* automatically lead to punishment. There is a buffer zone of variable probability in which we can take a chance and maybe get away with it. The speeder on the highway doesn't always get caught. The cat-and-mouse game between law-breakers and law enforcement is what makes law-abiders feel virtuous for having decided to obey the law. If you cannot break the law — or if its breaking automatically condemns you — you cannot feel virtuous for not breaking it. A world where there is no cat-and-mouse game is one where the law is a hardcoded auto-enforced electric fence that leaves no room for personal responsibility in upholding it.

It's for this reason that we need to protect and uphold a Right to Criminality. A world without it is a world of Behavioural Autocorrect, and corporate digital payments systems are vectors via which such autocorrect will assert itself. The automatic flagging of tax infringements, the automatic fining of the traffic offender, the automatic banning of the political dissident.

The Internet of Fully-Automated Capitalism

The emergent concerns about cashless surveillance and financial exclusion have led anti-cash cheerleaders like Kenneth Rogoff — author of *The Curse of Cash* — to preface his speaker tours of the world's intellectual salons with pre-emptive marketing material. An advert for his talk at London School of Economics promised that the professor would address issues the removal of cash will pose, 'ranging from fears about privacy and price stability to the need to provide subsidized debit cards for the poor'.[13]

Let's say Kenneth is right. It is not inconceivable that we could adequately resolve or reduce problems that accompany the privatization and digitization of all money movement, and put in place protections.

But cast your eyes into the far future. Cash is standing in the way of fully automated capitalism. We've seen our economic system increasingly automated at the production level, with businesses using robots and conveyer belts. Then we've seen it get automated at the management and co-ordination level, the algorithms of work flows and logistics, and the huge digital platform corporations that hover above smaller players, matchmaking them. But at the *exchange* level many transactions remain manual, or organic. We still have to go through a cognitive decision-making process and — sometimes — a social interaction in order to exchange. It is here that traditional economists imagine their 'rational agent', considering a product in light of their money budget, deciding whether it is good value, and perhaps bargaining.

To fully automate capitalism — to make it a truly inhuman, machinic system — would involve not only the automation of production, management and co-ordination, but also the full automation of exchange. This requires the automation of the seller, the buyer and the payment process. This is the Internet-of-Things utopia of fridges buying milk from passing drones. This is the world of toll-road payments automatically triggered by facial recognition as you silently drive by. The further you push this, the more alienated the individual becomes, a passive participant watching markets unfold around them.

Perhaps we'll see a cyberpunk dual economy, with cash eking out an underground existence as a currency for those seeking to preserve the last remnants of human emotional connection within markets. Perhaps we'll tell romantic tales of an imagined past in which red-blooded debates over value were found in marketplaces.

But perhaps it will not reach this stage. You see, while you cannot burn digital money, you can certainly turn it off. We like to think we're electro-digital technological gods, but if our fossil-fuel power transmission lines go down, our cashless economy quickly chokes to death. Maybe cashless society is a dirty radical conspiracy, the ultimate Trojan Horse. Make everyone dependent on digital payment, then break the electrical grid, and watch the system fall like never before.

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